Marine Expeditionary Rifle Squad: A Systems Approach to Infantry Integration

Major Mark Richter, USMC
PM Marine Expeditionary Rifle Squad
Marine Corps Systems Command

Presentation For
International Soldier Systems Conference
15 December 2004

The Key Players

Identifies Needed Required Capabilities Universal Needs Statement (UNS)

Develops Concepts and Translates Needed Capabilities into Requirements Documents

GCE Advocate, Oversees OAG Process

Dollars, Acquisition, Life Cycle Management

Why Be Concerned?

- IOAG & Ground Board stressed lack of **integration** and **single** POC
  - No Vision or roadmap for the Future Marine Rifle Squad
  - No Requirements developed for integrated capabilities
  - No Acquisition single POC to develop integrated material solutions
- Fragmented prioritization of squad-oriented POM submissions
  - Competition is self-defeating
- Current programs fall short of supporting an integrated systems approach
  - Programs are ‘stove-piped’ by functional area
- Investment in equipment to support the infantry squad is sub optimized
- Human factors & integration lack systematic approach

Need: Integrated, Systematic Approach. Single POC.

The Integration Challenge

Infantry Weapons
- Modular Weapon System (MWS)

Power Systems
- Ultralife Batteries

Operation Center
- Portable Display Device
- Digital Automated Communication Terminal (DACT)
- Handheld Personnel Locator
- Small Unit Operations/Situational Awareness System (SUO/SAS)

Optics
- RCO/ACOG
- PVS-7 NVG
- PVS-17 Mini Night Vision Sight
- PVS-14 Individual Image Intensifier Night Vision
- PAS-13 Thermal Weapon Sight (TWS)

LAV, EFV, MV-22
- Mobility

Training Systems
- Indoor Simulated Marksmanship Trainer - Enhanced (ISMT-E)

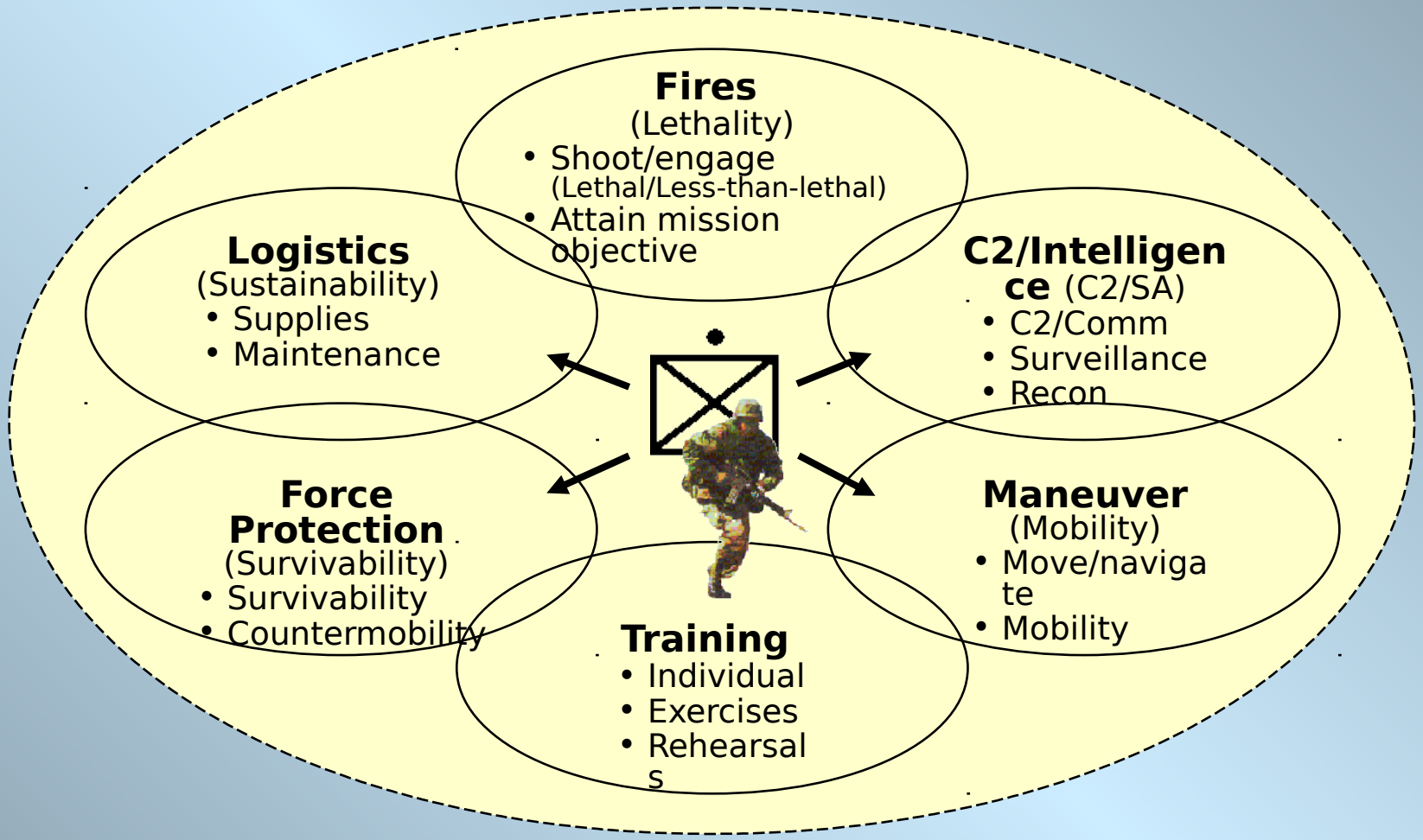
Ground C2
- PRR
- Handheld GPS Devices
- Precise Lightweight Global Positioning System Receiver (PLGR)
- Dead Reckoning Module (DRM)
- Single Channel Ground and Airborne Radio System (SINCGARS)

Infantry Combat Equipment
- All-Terrain All-Purpose Cart (ATAC)
- Modular Lightweight Load-Carrying Equipment (MOLLE)
- Interceptor Body Armor
- Raptor

NBCS
- NBC Equipment

Multiple Systems, Many Voices. Human Factors? Integration?

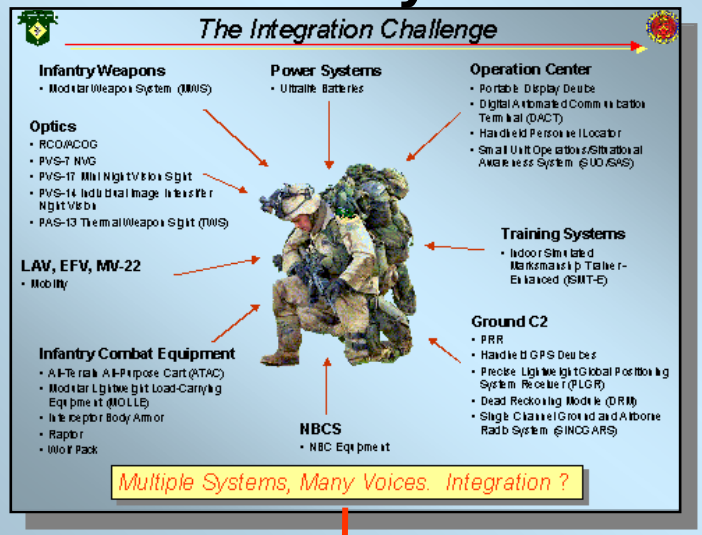
Squad as an Integrated System



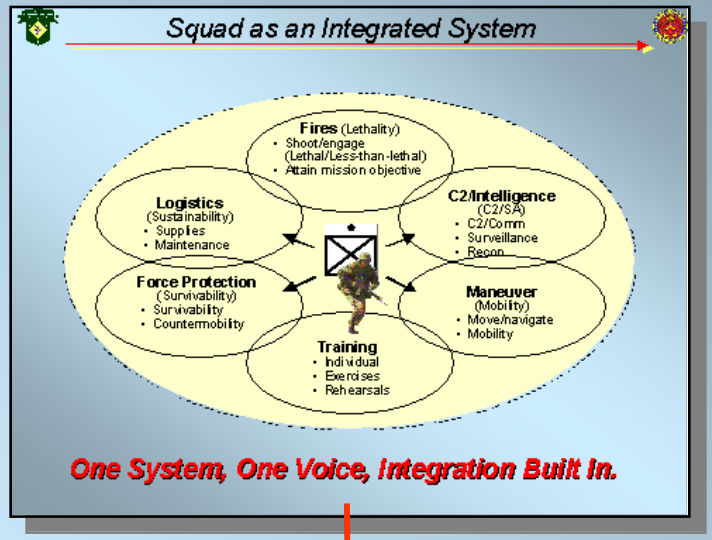
Human Factors & Integration Built In One System, One Voice,

The MERS Challenge

Today


The Integration Challenge
Infantry Weapons
• Modular Weapon System (MWS)
Power Systems
• Ultralife Batteries
Operation Center
• Portable Display Device
• Digital Automated Communication Terminal (DACT)
• Handheld Personnel Locator
• Small Unit Operations/Situational Awareness System (SUO/SAS)
Optics
• RCO/ACOG
• PVS-7 NVG
• PVS-17 Mini Night Vision Sight
• PVS-14 Individual Image Intensifier Night Vision
• PAS-13 Thermal Weapon Sight (TWS)
Training Systems
• Indoor Simulated Marksmanship Trainer-Enhanced (ISMT-E)
LAV, EFV, MV-22
• Mobility
Ground C2
• PRR
• Handheld GPS Devices
• Precise Lightweight Global Positioning System Receiver (PLGR)
• Dead Reckoning Module (DRM)
• Single Channel Ground and Airborne Radio System (SINCGARS)
Infantry Combat Equipment
• All-Terrain All-Purpose Cart (ATAC)
• Modular Lightweight Load-Carrying Equipment (MOLLE)
• Interceptor Body Armor
• Raptor
• Wolf Pack
NBCS
• NBC Equipment
Multiple Systems, Many Voices. Integration ?

Future



Integration Added-On

- Multiple Operating Concepts
- Multiple Requirements Documents
- Multiple Acquisition Strategies
- Products Integrated After Fielding
- Human Factors Not Systematic
- Interoperability Forced in
- Process Inefficient
- Minimal Leveraging
- Infrastructure & O&M Costs
- Multiple Belly-buttons
- Discrete Performance Improvements

Integration Built-In

- Single Integrated Operating Concept
- Single Integrated Requirements Documen
- Integrated Acquisition Strategy
- Products Integrated From Inception
- Human Factors Incorporated into System
- Interoperability Built in
- Speeds Process
- Leveraging Saves Resources
- Significantly Reduced Infrastructure & O&
- One Belly-button
- System Performance Improvements

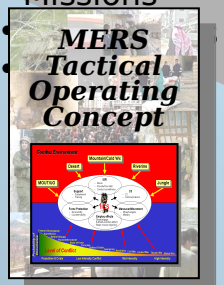
MERS … is not just equipment…

- *It's implementing strategic/operational concepts at the squad level*
- *It's a mindset, it's a philosophy, it's a culture, it's DOTMLPF*
- *And it's designed to develop a better fighting machine – the **Marine Expeditionary Rifle Squad***

Future Concep

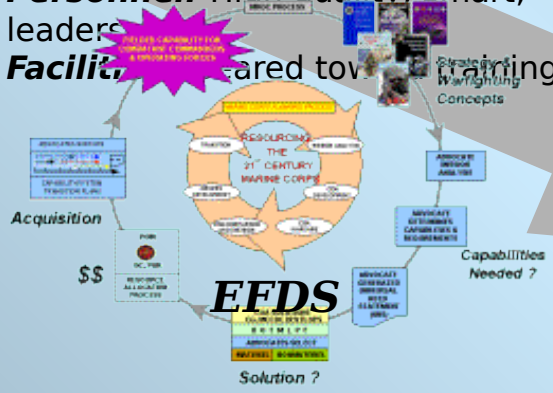
Future Squad Operating Concept

- Squad Missions
-
-



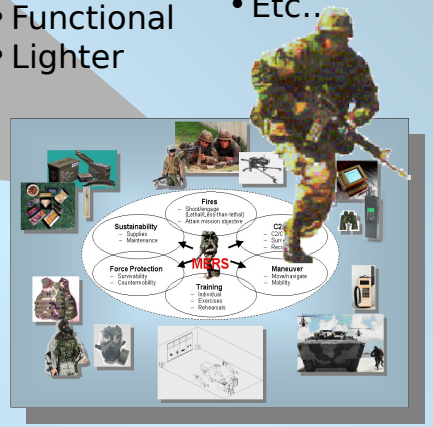
Integrated Required Capabilities

- ***Doctrine:*** Goals for future fight
- ***Organization:*** Size of basic fighting unit
- ***Training:*** How to fight
- ***Leadership & Education:*** WF Culture
- ***Personnel:*** High quality, smart, leaders
- ***Facilit…*** …ared tov… …training



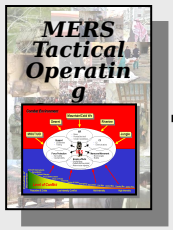
Integrated Materiel Solutions

- Effective
- Functional
- Lighter
- Integrated
- Compatible
- Etc…

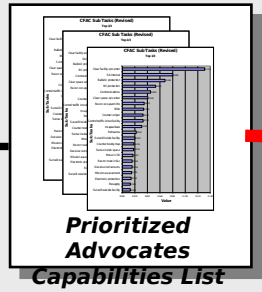


MERS Systematic Approach

Integrated Squad Concept & Required Capabilities form Future Roadmap



+



Prioritized Advocates Capabilities List

DOT M LPF

DOT_LPF

Combat Development

Guides S&T

Leveraging Technology Influences Future Programs

Other Soldier Systems

Technologies

Experimentation

Technology & Experimentation

Ties Into Future Programs

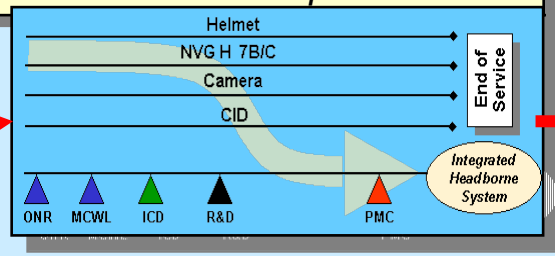
M

Legacy Systems

Current Programs

Gap Analysis & Acquisition Strategy

Portfolio Management Coordinates the Future Roadmap



Future Programs

Acquisition

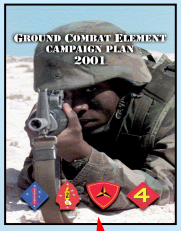
OAG Periodically Adjusts Capability List

Acquisition & Life Cycle Management Ensures Support of MERS Systems

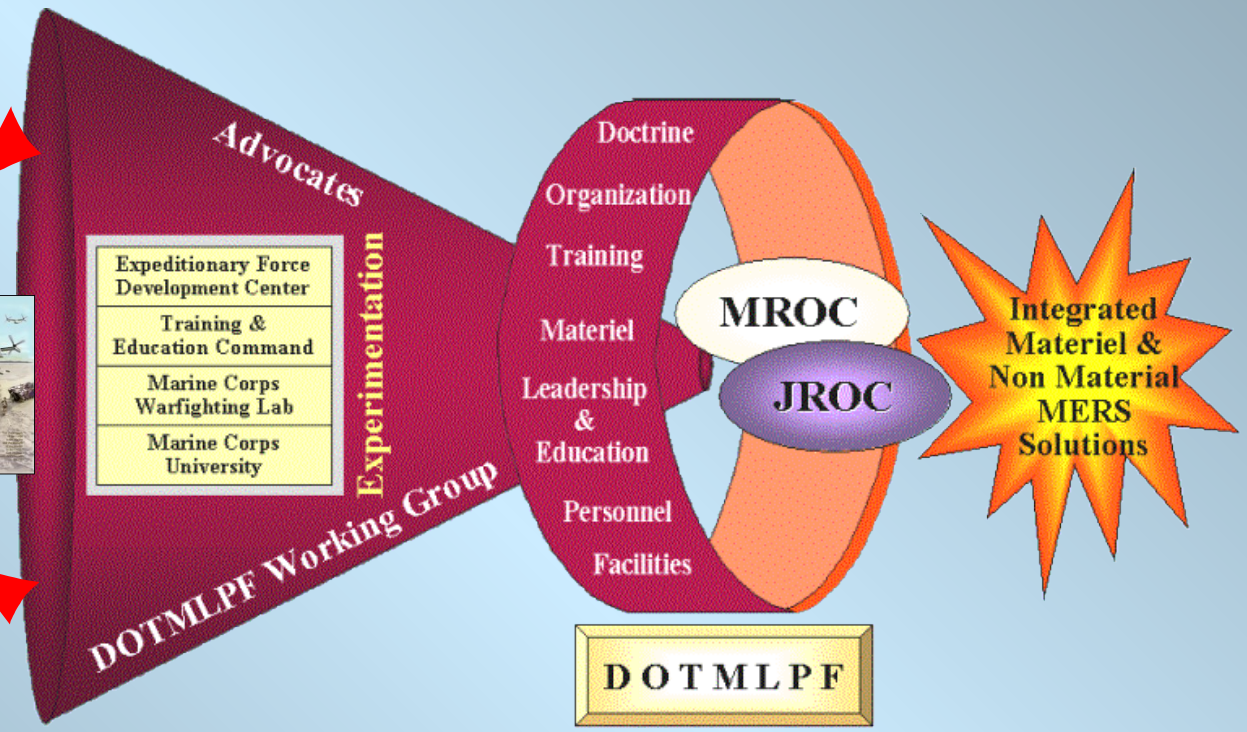
Fully Integrated Capabilities

Strategic Planning Process

MERS Complements Expeditionary Force Development System (EFDS)

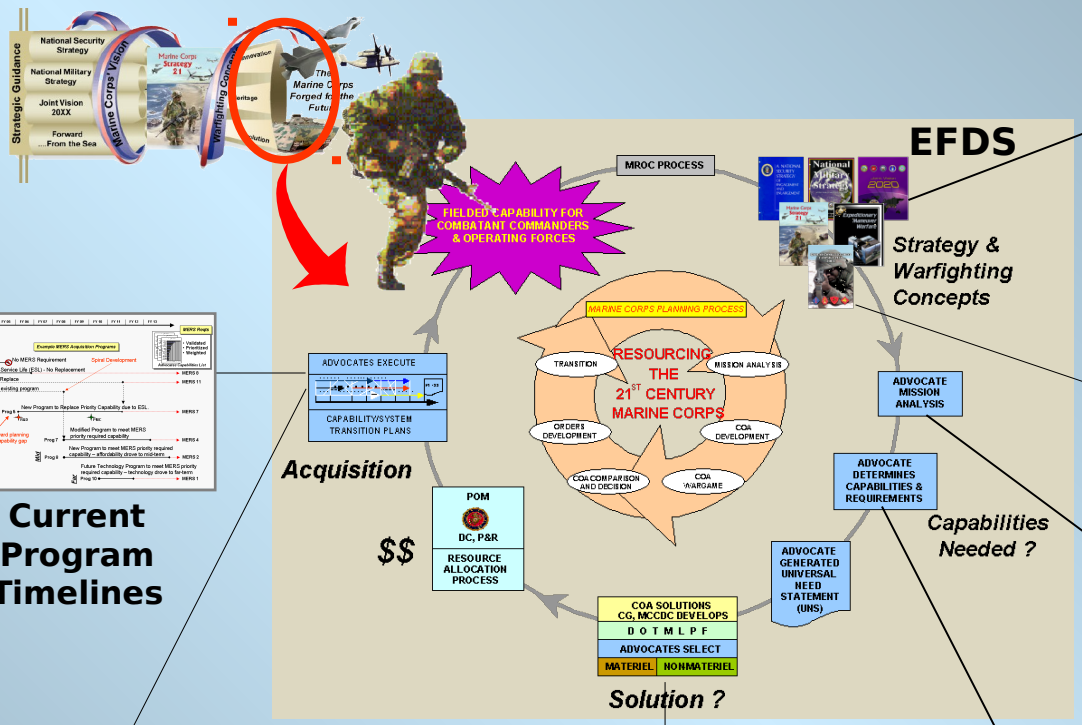


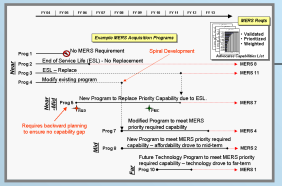
High Level Concepts



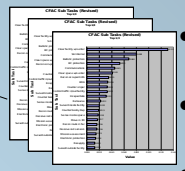
Additional Benefits of MERS Process

Can provide critical/timely information to the Expeditionary Force Development System (EFDS)



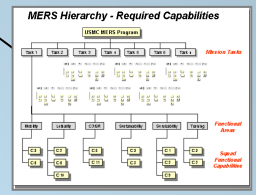


Current Program Timelines



- Validated
- Prioritized
- Weighted

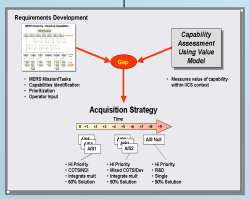
Advocates Capabilities List

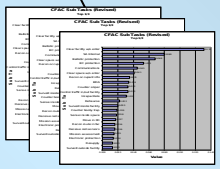


Mission Analysis

	Programs				
Required Capabilities	P1	P2	P3	P4	Pn
R1	X				
R2		X	X		
R3					
Rm				X	

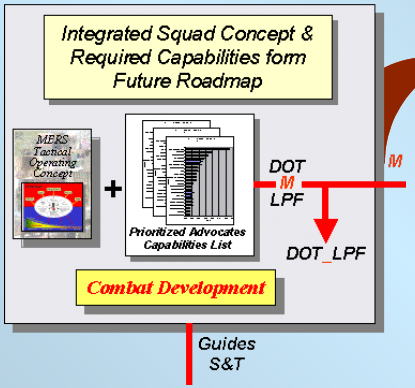
Current Gap Matrix





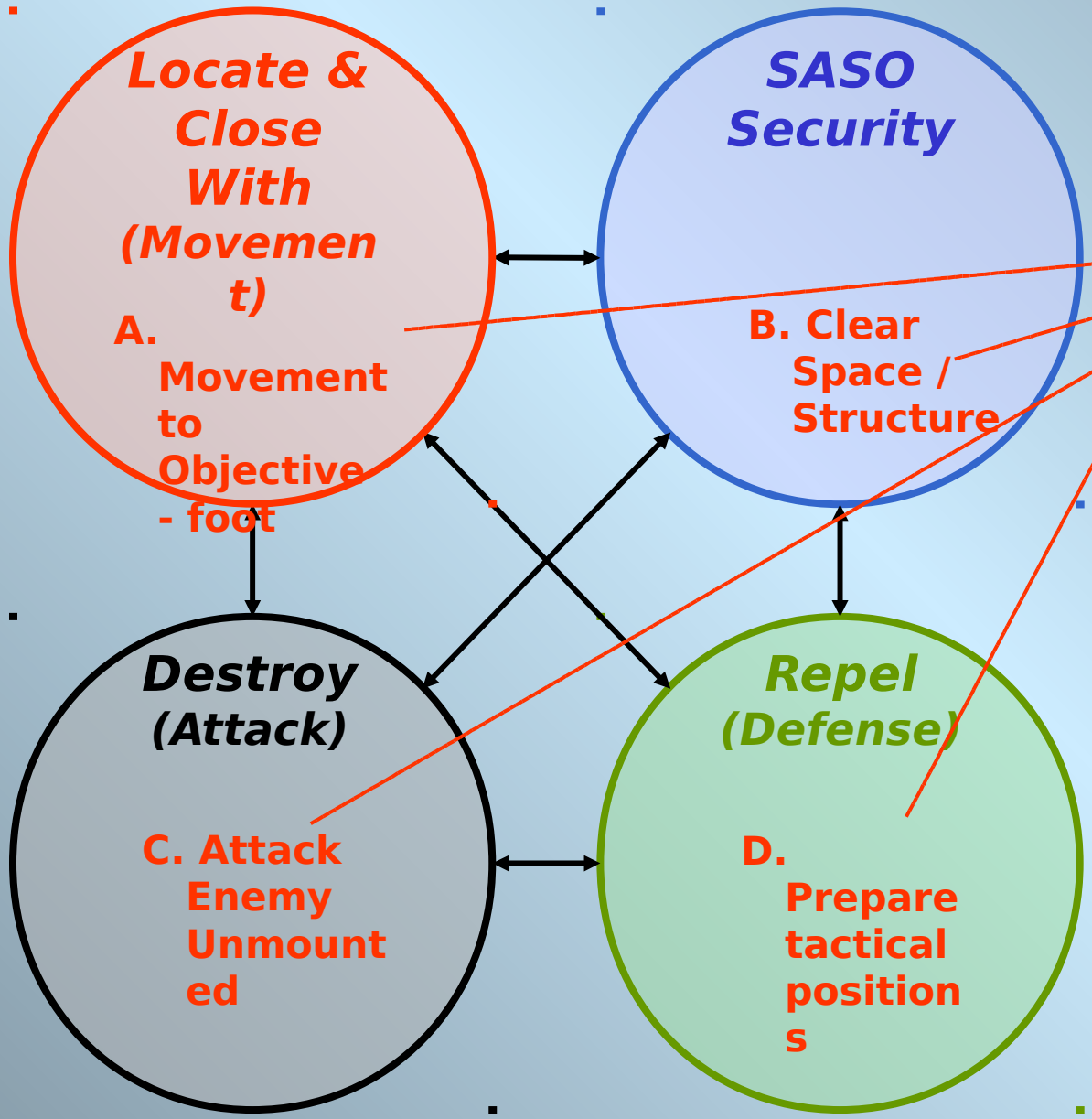
Updated Advocates Capabilities List

MERS Combat Development Methodology



1. **Decompose MERS into Basic Squad Missions**
   - **Doctrinal pubs**
   - **Future concepts**
   - **FMFMs**
2. **Develop Squad Tasks and align with missions**
   - **MCCRES**
   - **T&R manual**
   - **SOI POI**
   - **Lesson's Learned**
3. Develop capabilities & associate with tasks
4. *Validate Hierarchy with operators (missions, tasks, capabilities)*
5. Prioritize Hierarchy
6. Apply Conditions
7. Develop Operating Concept
   - **Develop pictorial view of basic missions**
   - **Modify based on data collection**
   - **Apply each mission to an accepted scenario**
   - **Finalize using prioritized conditions & hierarchy**

Squad Tasks from Squad Perspective

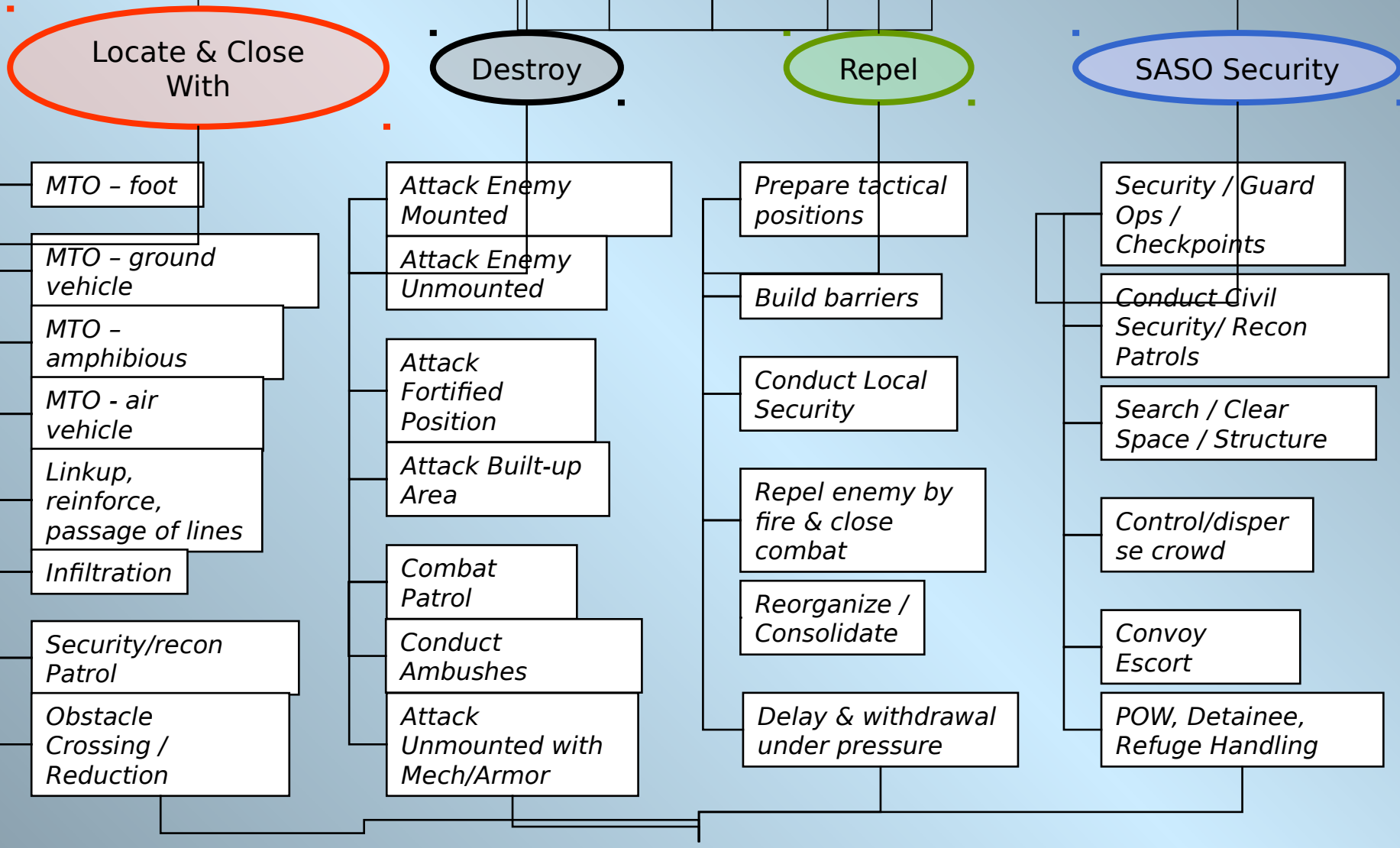


Task	Close	Security	Repel	Destroy
A	X			
B		X		
C				X
D			X	

One-to-one Relationship

- Squad conducts a particular task that is associated with only one mission at any time at any given time
- Squad transitions from one mission to another as an operation proceeds
  - Example: The squad transitions from a task in Close With (e.g. movement by foot) to one in Destroy (attack enemy unmounted).
- Rationale: Simplifies the scope of the analytical problem

MERS Hierarchy



Squad Capabilities (Next Charts)

Locate & Close With

Locate & Close With

Squad Mission

MTO – foot

MTO – ground vehicle

MTO – amphibious

MTO - air vehicle

Conduct linkup / passage of lines

Infiltration

Security / recon Patrol

Obstacle Crossing / Reduction

Squad

C2/Intell

- Communicate internal to squad
- Communicate external to squad
- Communicate w/ indigenous population or foreign forces
- Access/Employ Intelligence
- Conduct Mission Analysis & Planning
- Observe/conduct surveillance/recon
- Maintain SA external to squad
- Maintain SA internal to squad
- Tactical Control of the Unit

Fires

- Detect targets
- Classify targets
- Identify targets

Maneuver

- Move unmounted in tactical situation
- Navigate
- Carry supplies & equipment (ammo, food, water, batteries, weapons, etc)

Force Protection

- Protect against environment
- Protect against kinetic projectiles
- Detect and locate mines, IEDs, unexploded ordnance & booby traps
- Protect against non-kinetic weapons effects
- Protect against NBC contamination
- Perform self-aid/buddy aid.
- Reduce signature
- Counter target acquisition
- Employ Deception measures
- Flotation in water

Logistics

- Maintain equipment
- Hydrate the squad
- Nourish the squad
- Generate Power

Training

- Organize training
- Conduct training
- Evaluate training

Squad

Draft Squad Mission, Task, Capability Hierarchy

Squad Tasks

Required Capabilities

Task – Capability Mapping

Types of Combat	Offensive															Defensive						Other Than War					
Operation/HHQ Missions	Locate & Close With								Destroy							Repel						SASO Security					
Squad Tasks	Movement to Objective (foot)	Movement to Objective (ground vehicle)	Movement to Objective (amphibious)	Movement to Objective (air vehicle)	Conduct linkup/passage of lines	Infiltration	Security/reconnaissance patrol	Obstacle Crossing/Reduction	Attack Enemy Unmounted	Attack Enemy Mounted	Attack Fortified position	Attack Built-Up area	Combat Patrol	Conduct Ambushes	Attack Unmounted w Mounted/Armor	Prepare tactical position	Build barriers	Conduct Local Security/Surveillance	Repel enemy by fire & close combat	Reorganization/Consolidation	Delay & withdrawal under pressure	Provide Security/Guard	Conduct civil security / reconnaissance	Clear Space/Structure	Control/disperse crowd	Provide Convoy Escort	POW, Detainee, Refuge Handling
Functional Area (FA) / Required Capability																											
C2/SA	Communicate internal to Squad	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Communicate external to Squad	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Communicate with indigenous population or foreign forces	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Employ intelligence	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Conduct assimilation/analysis & planning	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Observe/conduct surveillance/reconnaissance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Record information							x	x					x	x	x	x	x		x			x				x
C2/SA	Control Fires organic to the Squad									x	x	x	x	x	x	x				x		x		x	x	x	
C2/SA	Control Fires External to the Squad									x	x	x	x	x	x	x				x		x			x	x	
C2/SA	Maintain SA about forces external to the squad	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Maintain SA about own squad	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C2/SA	Tactical Control of the Unit	x	x	x	x																			x	x	x	
C2/SA	Prepare orders, reports, records, overlays																										x
Lethality	Detect targets	x	x																					x	x	x	
Lethality	Classify targets	x	x																					x	x	x	
Lethality	Identify targets	x	x																					x	x	x	
Lethality	Locate/Designate/Acquire targets																							x	x	x	
Lethality	Engage threat to incapacitate with fires organic to the squad																							x	x	x	
Lethality	Engage threat with squad organic fires																							x	x	x	
Lethality	Engage threat with fires not organic to the squad																								x	x	
Lethality	Emplace Mines/Demolitions																										
Mobility	Move unmounted in tactical situation	x																						x	x	x	
Mobility	Move mounted in tactical situation		x	x	x																				x	x	
Mobility	Breach/reduce/clear obstacles								x															x		x	
Mobility	Navigate	x	x			x	x	x		x	x	x	x	x		x			x			x		x	x	x	
Mobility	Carry supplies & equipment (ammo, food, water, batteries, weapons, etc)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x		x	x	x	x	x	x	x
Sustainability	Maintain equipment	x	x	x	x		x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sustainability	Produce/Collect Potable Water																				x						
Sustainability	Feed the squad																				x						
Sustainability	Generate Power	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sustainability	Manage supplies									x	x	x	x	x		x		x		x	x	x			x	x	x
Survivability	Protect against environmental conditions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Survivability	Protect against kinetic projectiles	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Survivability	Detect and locate mines, IEDs, unexploded ordnance & booby traps	x	x			x	x	x	x	x	x	x	x	x		x	x	x	x		x	x	x	x	x		x
Survivability	Protect against non-kinetic weapons effects	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Survivability	Detect & Protect against NBC contamination	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Survivability	Perform self aid/buddy aid.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Survivability	Reduce signature	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x
Survivability	Construct obstacles														x			x				x	x				
Survivability	Construct field fortifications																x					x					
Survivability	Employ Deception measures	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x		x	

Top 5 Required Capabilities

Req'd Caps DOTMLPF	Sustain & Manage Electric Power Rank: 1 Weight: 30.0	Perform self-aid/buddy aid Rank: 2 Weight: 29.7	IFF Transmission Rank: 3 Weight: 29.4	Maintain SA internal to squad Rank: 4 Weight: 29.4	Protect against environment Rank: 5 Weight: 29.3
Doctrine	Concepts driving requirement for more autonmous more separation	Concepts driving requirement for more autonmous more separation	None	Concepts driving requirement for more autonmous more separation	None
Organizational	None	None	None	None	None
Training	None	Higher degree of training similar to level of SOF teams is needed	None	All members trained to maintain own SA and assist with squad SA	Train ways to minimize exposure &
Materiel	Better batteries, micro power sources, energy efficient equipment (consume less power)	Increased medical capability would require more sophisticated equipment	RFID systems and communications means	Automated information systems that track and display key info about squad (locations, ammo, health, supplies, etc.)	Improve clothing & protective equipment
Leadership & Education	Leaders would need power management education	Leaders need medical management education & new medical care thinking	None	None	None
Personnel	None	None	None	None	None
Facilities	None	None	None	None	None
Lessons Learned	Problem recognized in OIF. DC CD placed	From SOF experiences	Fratricide has been a high level	As squads become more separated in	A few specific items need work,

Sustain & Maintain Electric Power

DOTMLPF	Rank: 1 Weight: 30.0
Doctrine	USMC Concepts driving requirement for more autonomous ops & more separation of units
Organizational	None
Training	None
Materiel	Better batteries, micro power sources, energy efficient equipment (consume less power)
Leadership & Education	Leaders would need power management education
Personnel	None
Facilities	None
Lessons Learned	Problem recognized in OIF. DC CD placed high priority on technical solution
Gap Assessment	Legacy Batteries only solution

Problem

- USMC Concepts are driving the need to employ more comm & other equipment that requires power
- The squad is primarily a foot mobile organization
- Portable Power becomes a more critical need with the increase of electronic systems
- New concepts will be less effective without a solution

Lessons Learned Issue

- Nonstandard, uncoordinated, and ever-increasing requirements for electrical power carried by the infantryman
  - 2/8 OIF After Action Report dated 27 May 2003
  - OIF PEO Soldier Lessons Learned dated 15 May 2003

Solution

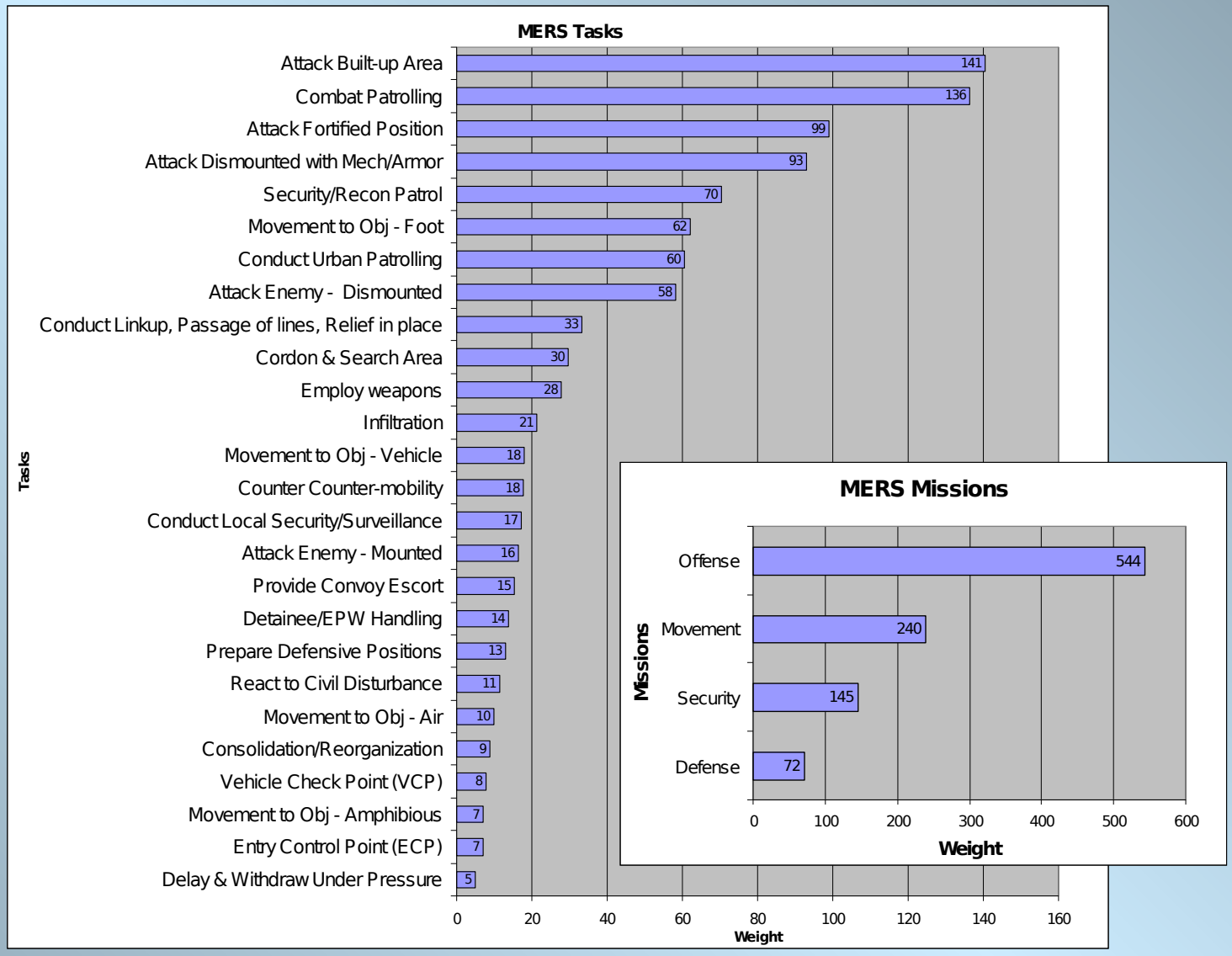
- No legacy or program can meet the need
- ONR is conducting power generation research
  - Mainly geared toward vehicle electric power
- Need identified to field a man-packable power source or decrease all the power requirements of squad level equipment

Gap Analysis

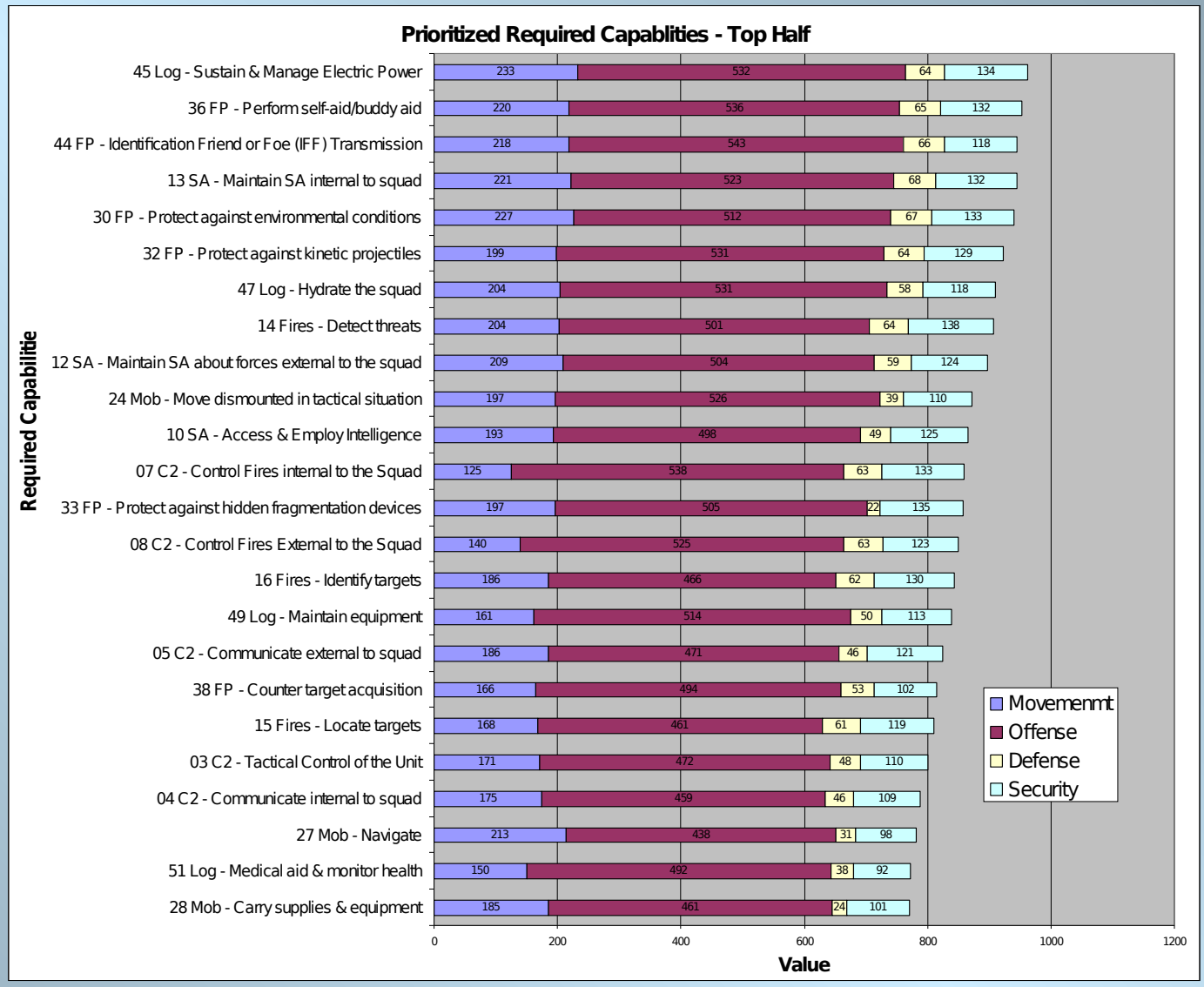
Priority	Required Capability	Benefit Value	Legacy	Program 1	Program 2	Program 3	Program 4
1	**Sustain & Manage Electric Power**	30	40%	20% Solution		10% Solution	
2	**Perform self-aid/buddy aid**	29.7	60%		35%		
3	**IFF Transmission**	29.4	Gap – No solution				
4	**Maintain SA internal to squad**	29.4	30%	15%			43%
5	**Protect against environment**	29.3	90%	No Major Gap – Existing DOTMLPF meets need			
…	Other Required Capabilities	…		…	…	…	…
54	Flotation in a water environment	1.2	100%	No Gap – Existing DOTMLPF meets need			

What Strategy Provides the Biggest Bang for the Buck

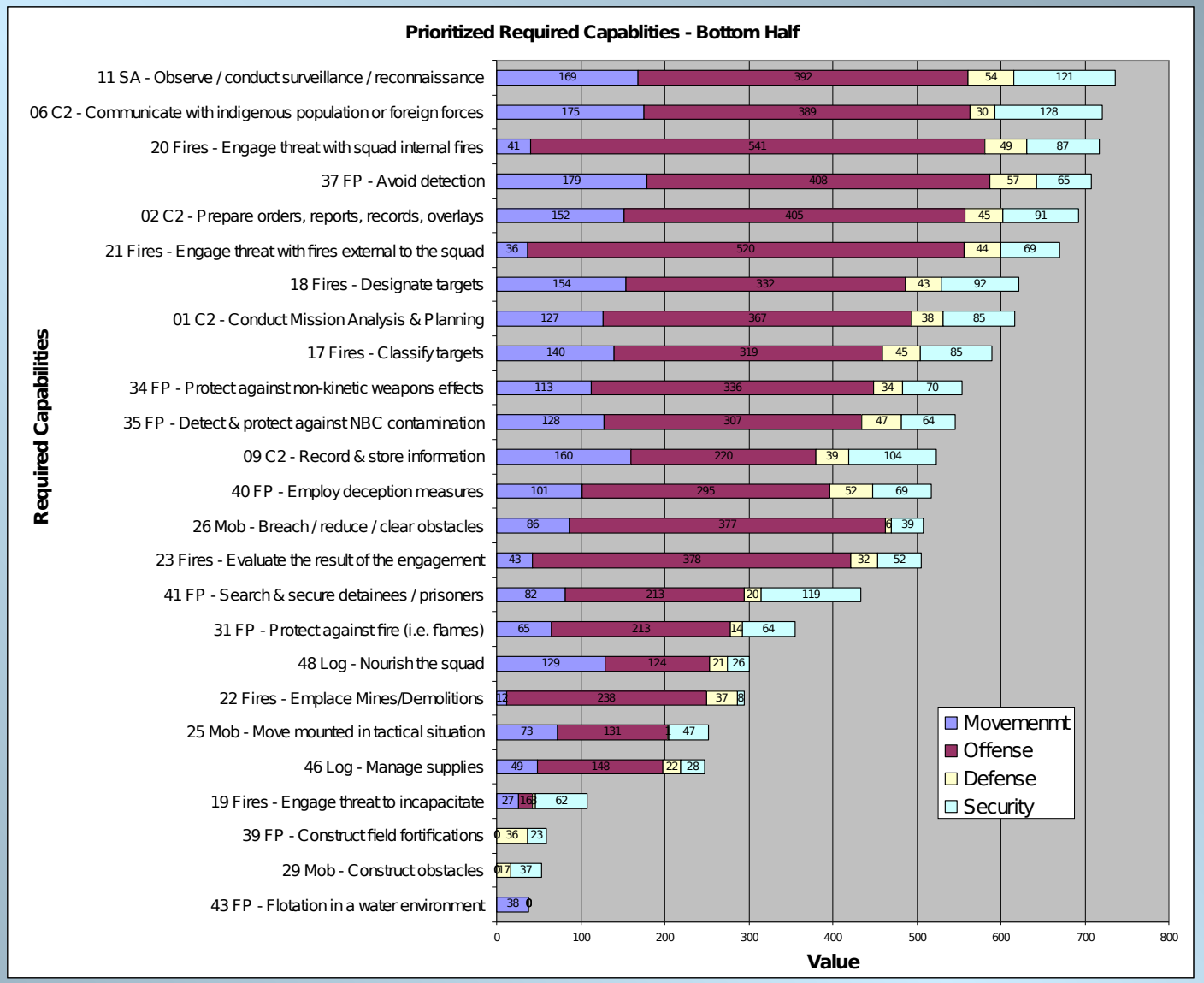
MERS Prioritized Missions & Tasks



MERS Prioritized Required Capabilities – Top 1/2


Prioritized Required Capablities - Top Half
Required Capabilitie
45 Log - Sustain & Manage Electric Power 233 532 64 134
36 FP - Perform self-aid/buddy aid 220 536 65 132
44 FP - Identification Friend or Foe (IFF) Transmission 218 543 66 118
13 SA - Maintain SA internal to squad 221 523 68 132
30 FP - Protect against environmental conditions 227 512 67 133
32 FP - Protect against kinetic projectiles 199 531 64 129
47 Log - Hydrate the squad 204 531 58 118
14 Fires - Detect threats 204 501 64 138
12 SA - Maintain SA about forces external to the squad 209 504 59 124
24 Mob - Move dismounted in tactical situation 197 526 39 110
10 SA - Access & Employ Intelligence 193 498 49 125
07 C2 - Control Fires internal to the Squad 125 538 63 133
33 FP - Protect against hidden fragmentation devices 197 505 22 135
08 C2 - Control Fires External to the Squad 140 525 63 123
16 Fires - Identify targets 186 466 62 130
49 Log - Maintain equipment 161 514 50 113
05 C2 - Communicate external to squad 186 471 46 121
38 FP - Counter target acquisition 166 494 53 102
15 Fires - Locate targets 168 461 61 119
03 C2 - Tactical Control of the Unit 171 472 48 110
04 C2 - Communicate internal to squad 175 459 46 109
27 Mob - Navigate 213 438 31 98
51 Log - Medical aid & monitor health 150 492 38 92
28 Mob - Carry supplies & equipment 185 461 24 101
Movemenmt
Offense
Defense
Security
0
200
400
600
800
1000
1200
Value

MERS Prioritized Required Capabilities – Bottom 1/2


Prioritized Required Capablities - Bottom Half
Required Capabilities
11 SA - Observe / conduct surveillance / reconnaissance
06 C2 - Communicate with indigenous population or foreign forces
20 Fires - Engage threat with squad internal fires
37 FP - Avoid detection
02 C2 - Prepare orders, reports, records, overlays
21 Fires - Engage threat with fires external to the squad
18 Fires - Designate targets
01 C2 - Conduct Mission Analysis & Planning
17 Fires - Classify targets
34 FP - Protect against non-kinetic weapons effects
35 FP - Detect & protect against NBC contamination
09 C2 - Record & store information
40 FP - Employ deception measures
26 Mob - Breach / reduce / clear obstacles
23 Fires - Evaluate the result of the engagement
41 FP - Search & secure detainees / prisoners
31 FP - Protect against fire (i.e. flames)
48 Log - Nourish the squad
22 Fires - Emplace Mines/Demolitions
25 Mob - Move mounted in tactical situation
46 Log - Manage supplies
19 Fires - Engage threat to incapacitate
39 FP - Construct field fortifications
29 Mob - Construct obstacles
43 FP - Flotation in a water environment
169 392 54 121
175 389 30 128
41 541 49 87
179 408 57 65
152 405 45 91
36 520 44 69
154 332 43 92
127 367 38 85
140 319 45 85
113 336 34 70
128 307 47 64
160 220 39 104
101 295 52 69
86 377 8 39
43 378 32 52
82 213 20 119
65 213 14 64
129 124 21 26
12 238 37 8
73 131 1 47
49 148 22 28
27 16 62
0 36 23
0 17 37
38 0
0 100 200 300 400 500 600 700 800
Value
Movemenmt
Offense
Defense
Security

Human Systems Integration

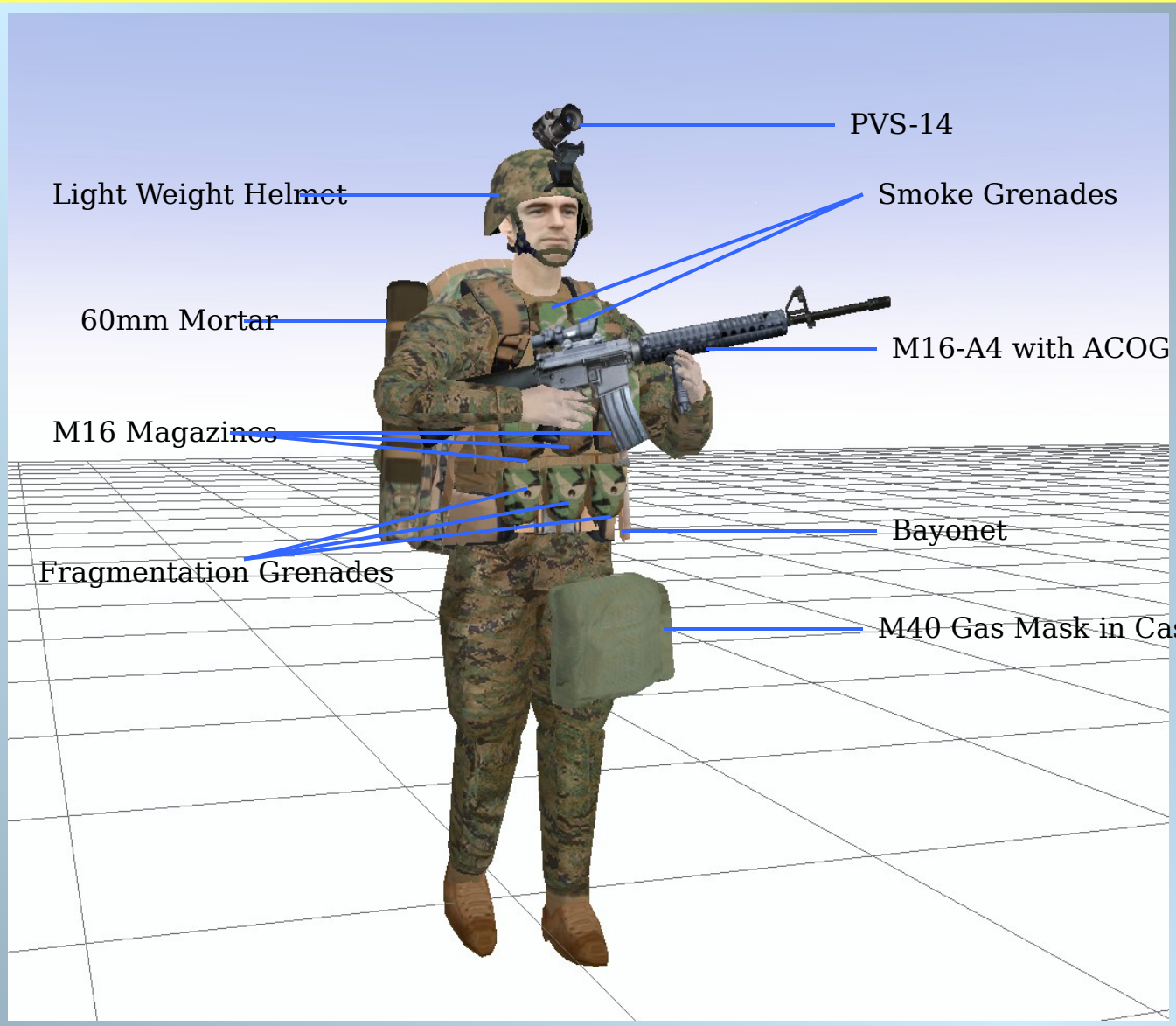
- PM MERS Methodology
  - Education
  - Constant Team Focus
  - Expertise from various sources
- Warrior System Integration vice Human Systems Integration?
  - Utilize the principles of HSI
  - User is a Warrior which brings other requirements
  - Warrior has capability to rapidly adapt
- Issues
  - Weight management
  - Integration of equipment into a single ensemble
  - Configuration management
  - Distributed capabilities within the squad
  - Variety of mission profiles continues to increase
  - Multiple mobility platforms
  - High priority on training
  - Legacy habits

Distributed Capabilities

- Distributed capabilities is the only means to effectively reduce the weight of the Marines in the squad.
- There is insignificant weight decrease by focusing on an individual Marine
- Squad as a system is the best method
- Analyze what capabilities are required versus level of redundancy.
- Increases the versatility of the squad
- Weight Study currently in process by Studies and Analysis Division at MCCDC
  - Data collection completed by EFCAT Team in Afghanistan and Iraq

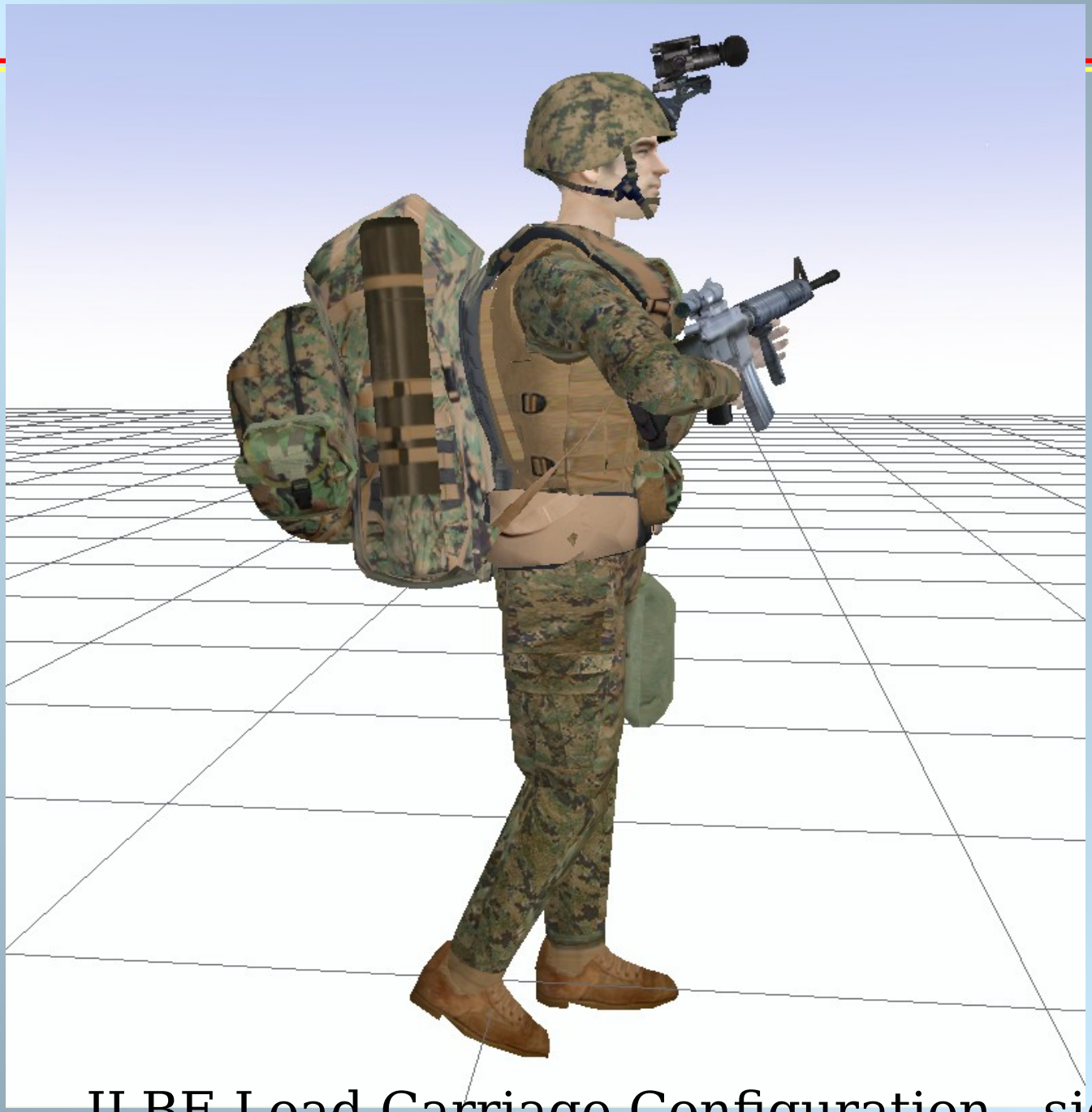
Integration and Modernization Initiatives

- Headborne System Initiatives
  - Near Term Effort: MarCorSysCom Lead. 16-24 month program. Currently revising requirements with Navy medical community and USMC requirements branch. Integration and prototyping begins in April 05.
  - Far Term Effort: ONR lead. 3 year program. Recently awarded Natick contract as Technology Development Agent. Prototypes in FY-06 and FY-07.
- Squad Situational Awareness Enhancement Capability
  - Integrating currently available situational awareness components with prototype components to provide a squad's worth of prototype equipment to conduct testing. Possible future component for Distributed Operations Squads.
- Boston Dynamics is modeling current and near term infantry squad equipment suite to identify integration opportunities, equipment relocation possibilities, and human factor issues for all five billets within the Marine Rifle Squad.
- Human Systems Inc currently supporting human systems integration projects for PM MERS.



ILBE Load Carriage Configuration- front view

ILBE Load Carriage Configuration - side view



ILBE Load Carriage Configuration - side view

PM MERS Lessons Learned and Actions

- Many of the multinational soldier modernization programs are funded and driving towards practical solutions with increased similarity to MERS Squad as a System concept.
  - Human Factors approach with technology solutions working for the warfighter is best approach vice approach of Soldier working for Technology
- Conducting data collection and lessons learned from these programs for Technology Harvesting and Trade Studies
  - Fruits of these labors already being observed in potential components effectively enhancing USMC squad capabilities
- Actively engaged with every PM providing material solutions to the squad
  - Socialization of squad as a system is best way to reduce weight and most cost effective means to modernize rifle squads.
- Current events in the Global War on Terrorism will continue to drive resources and influence prioritization of capabilities.

Issues from Data Collection & Conferences

- The MERS program goal is applauded by all Marines interviewed or that participated in the conferences
- Integration of equipment
  - Make it lighter, ergonomically compatible and efficient
  - High technology alone to meet many of the squad's needs was considered a poor substitution for better training with reliable, integrated, less high tech equipment
    - Not every need requires a high tech solution and should be analyzed carefully prior to making that decision
  - However, this should not preclude fielding an advanced technology where appropriate
- Training is an overarching issue that is extremely important across the board
  - The issue of training was echoed by every group of Marines that we interviewed and was repeated at both conferences numerous times
  - The issue of too many non-warfighting requirements placed on Marines impacts on the quantity and quality of the training that squad members receive
  - The lack of realistic training ranges, equipment and facilities result in the development of poor habits that do not translate well in a real combat or operational situation

Summary

- The Marine Expeditionary Rifle Squad process focuses on the squad as a system
  - Concept development and Squad Operating Concept for the future
  - Ownership of the process by key organizations within Marine Corps
  - Prioritized capabilities list to focus efforts
  - Best way to integrate equipment is with a focus on human systems integration
  - Best way to compete the squad in the POM process
  - Distributed capabilities is best way to reduce the weight of the squad
  - Technology is not the ultimate solution
  - Leverage the success of other programs
  - Interoperability is essential to the future of warfighting

PM MERS POC's

- Program Manager – Mr Dave Hansen (703) 432-3640
  - Hansendk@mcsc.usmc.mil
- Major Mark Richter (703) 432-3680
  - Richtermw@mcsc.usmc.mil
- Captain Jason Pandak (703) 432-3678
  - Pandakja@mcsc.usmc.mil
- Mrs. Susan Torfin (703) 432-3676
  - Susan.Torfin@usmc.mil
- Mr George Gibbs (703) 432-3615
  - Gibbsgg@mcsc.usmc.mil
- Mr Binh Nguyen (703) 432-3672
  - Nguyenb@mcsc.usmc.mil